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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,628	05/15/2001	Gerard De Haan	NL 010094	9268

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

SENF, BEHROOZ M

ART UNIT PAPER NUMBER

2613

DATE MAILED: 02/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/855,628	Applicant(s) DE HAAN ET AL.	
	Examiner Behrooz Senfi	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/6/2004, fwd 11/24/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's arguments filed 10/6/2004, fwd 11/24/2004 have been fully considered but they are not persuasive. Therefore the grounds of rejection as set forth in the last Office Action (paper no. 7, dated 7/20/2004) still applies here.

Response to remarks:

Applicant asserts (page 2, lines 3 from the bottom of the page) that, Hazra et al fails to disclose "optimizing is carried out at the temporal position of the next image in covering area and at the temporal position of the previous image in uncovering areas" and there is no disclosure that the "criterion function is a match error which is minimized in page 3, lines 11 – 12".

Examiner respectfully disagrees, Hazra '313 (figs. 3 and 4) discloses, process for determining best motion vector (candidate vectors, best match) between the current/new image/frame (as covering area), which has its own vector (which also consider next image with respect to the previous image) and previous image/frame (as uncovering area), which are situated temporally between the frames/blocks. The best-matched vector is being selected, is in fact a process of optimizing.

As for the "match error", the best-matched motion vector (MV) indicates the minimum error value, which in fact minimized the error value.

Applicant asserts (page 4, lines 1 - 5) that the reference Sun et al does not cover the "optimizing is carried out at the temporal position of the next image in covering

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area and at the temporal position of the previous image in uncovering areas” which is missing from Hazra et al reference.

Examiner agrees with applicant. However for the limitation as cited above, examiner relied on Hazra reference, not Sun et al reference. Therefore the present argument is moot.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 – 6, 13 – 18 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Hazra et al (US 6,594,313) for the same reason as set forth in the last office action. The grounds are being restated for applicant's convenience.

Regarding claim 1, Hazra '313 discloses “a method for detecting motion at temporal intermediate position between previous and next images (i.e. fig. 4), in which a criterion function for candidate vector is optimized and function depending on data from both previous and next images and in which the optimizing is carried out at the temporal intermediate position in non-covering (not covered/non-overlap) and non-uncovering (covered/overlap) areas, characterized in that the optimizing (best match) is carried out at the temporal position of the next image in covering areas and at the temporal position of the previous image in uncovering areas” (i.e. col. 1, lines 52 – 66).

Regarding claims 3 and 15, Hazra '313 discloses, "criterion function is a matching error" (i.e. col. 6, lines 25 – 35).

Regarding claims 2, 4 – 6, 14 and 16 – 18, the limitations claimed, (candidate vector and image shifting, and covering/uncovering detector in the matching process, and the fraction α is set to "0" and "1") reads on (i.e. col. 1, lines 54 – 65, col. 5, lines 34 – 45 and col. 6, lines 25 – 67, and α reads on predetermined threshold). Also note that fig. 7, shows α at .5 (i.e. $T + 1/2$).

Regarding claim 13, the limitations claimed are substantially similar to claim 1, and are apparatus of the method of claim 1, therefore the ground for rejecting claim 1 also applies here.

Regarding claim 25, Hazra '313 discloses, "display apparatus" (i.e. fig. 1).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7 – 12 and 19 – 24, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hazra et al (US 6,594,313) in view of Sun et al (US 6,480,615).

Regarding claims 7, Hazra '313 teaches, "a method for detecting motion at temporal intermediate position between previous and next images and criterion function for candidate vector is optimized and function depending on data from both previous

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and next images and in which the optimizing is carried out at the temporal intermediate position in non-covering (not covered/non-overlap) and non-uncovering (i.e. col. 1, lines 52 – 66). Hazra '313 fails to explicitly teach, “determining the velocity edge and foreground and background in the occlusion area”. However, such features are well known and used in the prior art of the record as evidenced by Sun '615 (i.e. fig. 2 – 3, col. 3, lines 5 – 50). Therefore, taking the combined teaching of Hazra '313 and Sun '615 as a whole, it would have been obvious to one skilled in the art at the time of the invention was made to use the process and estimate the motion (motion vector) in the vicinity of occlusions as taught by Sun '615 (i.e. col. 2, lines 65 – 67).

Regarding claims 11 and 23, combination of Hazra '313 and Sun '615 teaches “near edges it is tested whether the mentioned edge has moved over the first vector on one side of the edge or over”, which actually consider the motion vector in edge estimation (i.e. col. 3, lines 39 – 50).

Regarding claims 8 – 9 and 20 – 21, the limitations claimed are substantially similar to claim 7, therefore the ground for rejecting claim 7 also applies here, and as for “vector average” please see (col. 5, lines 5+ of Sun).

Regarding claims 10, 12, 22 and 24, the limitations claimed are substantially similar to claim 7. Therefore the ground for rejecting claim 7 also applies here.

Regarding claim 19, the limitations claimed are substantially similar to claim 7, and are apparatus of the method of claim 7, therefore the ground for rejecting claim 7 also applies here.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Behrooz Senfi** whose telephone number is **(703)305-0132**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Chris Kelley** can be reached on **(703)305-4856**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

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(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relative to the status of the application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

B. S. B. Jr.

2/3/2005



CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600